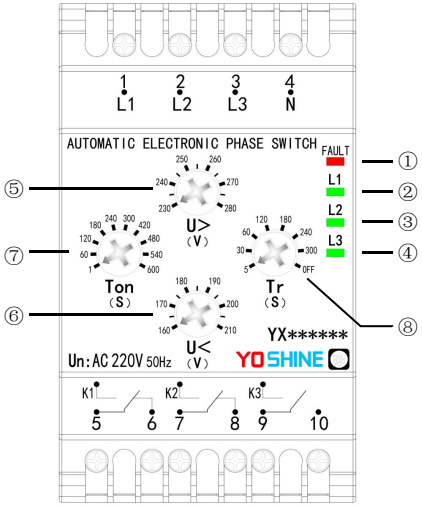
YOSHINE
Wenzhou Derrek Elec.Co.,Ltd

CB CE

Automatic Electronic Phase Switch

The YX743FPS220 automatic electronic phase switch is designed to supply an industrial/ appliance single-phase 220V/50Hz load from three-phase four-wire mains 3x380+N in order to maintain uninterrupted power supply of essential single-phase loads and protect them against unallowable voltage variations in the mains. To this end a single phase load is connected into the three-phase mains with the interposition of the YX743FPS220. According to voltage presence and voltage quality on phases the YX743FPS220 will automatically select the ptimum phase and switch the single phase load supply to this phase.

MODEL & EXPLANATION



① Fault Indicator
② L1 Work Indicator
③ L2 Work Indicator
④ L3 Work Indicator
⑤ Over Voltage Setting
⑥ Under Voltage Setting
⑦ Control for autoreclosing time delay
⑧ Control for time delay to return to the priority phase

YX743FPS220

Nominal Phase Voltage		220VAC L/N	
Mains frequency		45-65 Hz	
Trip threshold for Umin		160-210VAC	
Trip threshold for Umax		230-280VAC	
Adjustable reset delay, Ton		1-600S	
Returns the recovery delay time adjustment range for the priority phase, Tr		5-300S, OFF (Off priority phase)	
Fixed switch (de-energization) delay for Umin,		12S	
Switch delay to reserve phases		≤ 0.2S	
Voltage hysteresis	6VAC	Accuracy	± 2VAC
Maximum switching current of output contacts	16A AC1	Terminal wire capacity	14AWG (2.1mm2)
Power consumption (loaded)	≤ 3VA	Life of output contacts	Electrical life 1×10^5 Mechanical life 1×10^6
Dielectric strength	Between housing and contacts: 2500VAC	Ambient air temperature Around the device	Operation: -20 to +55℃ Storage: -30 to +70℃

LED INDICATOR DESCRIPTION

FAULT	Red fault LED stays on when the load is disconnected from all three phases.
FAULT	The red fault indicator will flash in the event of internal relay contact sticking or external magnetic starter failure.
L1	Green L1 indicator stays on when the load is supplied from phase L1.
L2	Green L2 indicator stays on when the load is supplied from phase L2.
L3	Green L3 indicator stays on when the load is supplied from phase L3.
L1/L2/L3	The green indicator flashes during the timing of the delayed control return to the priority phase.

OPERATION

1. The user sets the voltage trip thresholds for this product, i.e., the minimum and maximum voltage thresholds at which the device trips and cuts off power to the load (switching the load to the standby phase). Connection to the three-phase, four-wire mains via input terminals 1(L1), 2(L2), 3(L3), 4(N).

2. L1 phase is the priority phase, i.e. if the voltage on this phase is present and within the user preset threshold, the load will always be energised from L1 phase.

3. This product monitors the voltage existence and voltage value of each phase, if the voltage value on L1 is out of the tripping threshold range, this product will switch the load to the phase whose voltage value is within the tripping threshold at high speed (switching delay not more than 0.15S).

4. Switch from L1 to L2 and from L2 to L3 in turn (the corresponding LED indicator lights up).

5. After the load is switched to the standby phase, it continues to monitor the voltage presence and voltage value of the priority phase (L1), and when the voltage parameters of this phase return to normal, it will be switched to the priority phase at the end of the reset delay time Tr (5-300S) preset by the household. If Tr is in OFF position (off priority phase), return to priority phase is not executed.

6. If the voltage on the two standby phases (i.e. L2, L3) also exceeds the preset trip voltage threshold, the load will be disconnected and the red fault indicator will be long lit.

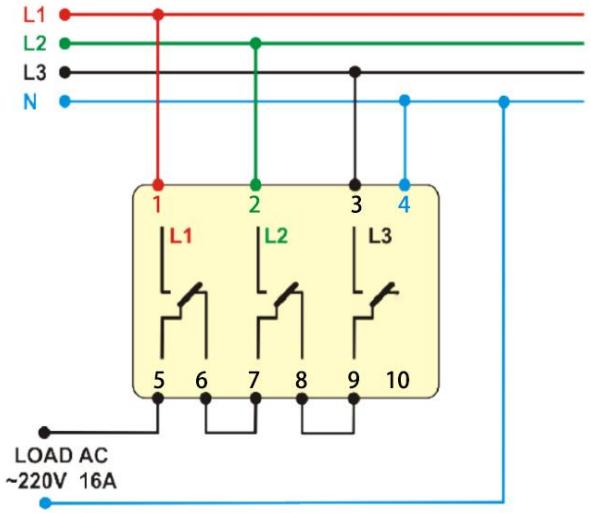
7. If both voltages fall below the minimum trip voltage threshold, the load will be disconnected and the red fault indicator will light up when the fixed time delay (12 seconds) for ignoring the transient drop in starting voltage expires.

8. If the voltages all exceed the maximum trip voltage threshold, the load will be disconnected immediately and the red fault indicator will be on.

9. If the load is disconnected from all three phases because the voltage on each phase exceeds the user's preset threshold, the product will continue to monitor voltage on all phases. When the voltage parameters return to normal on at least one phase, the load will be energised at the end of the reset delay Ton(1-600S).

WIRING DIAGRAMS 1

Wiring for loads less than 16A (use jumper between terminals 6-7 and 8-9)

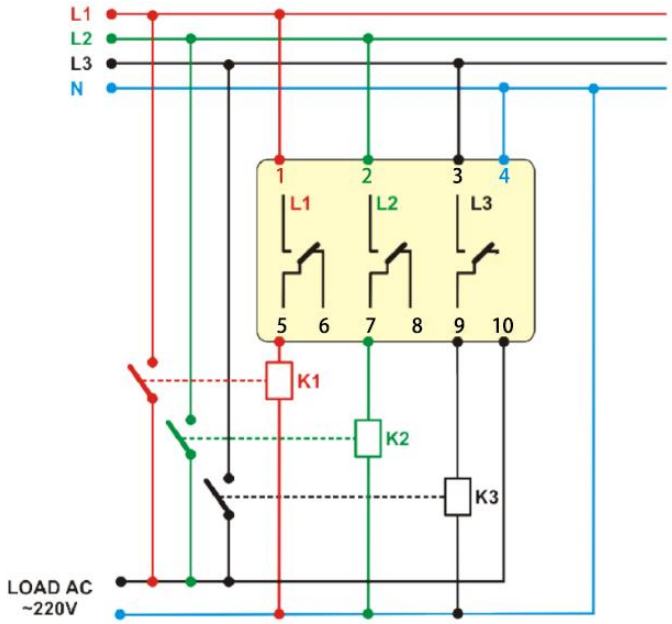


WIRING DIAGRAMS 2

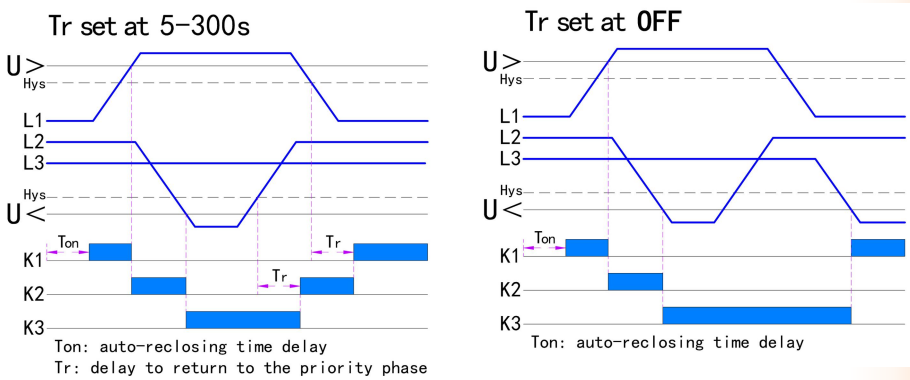
Magnetic starter auxiliary connection for loads over 16A (remove jumper between 6-7 and 8-9)

K1, K2, K3 ---- Magnetic starters

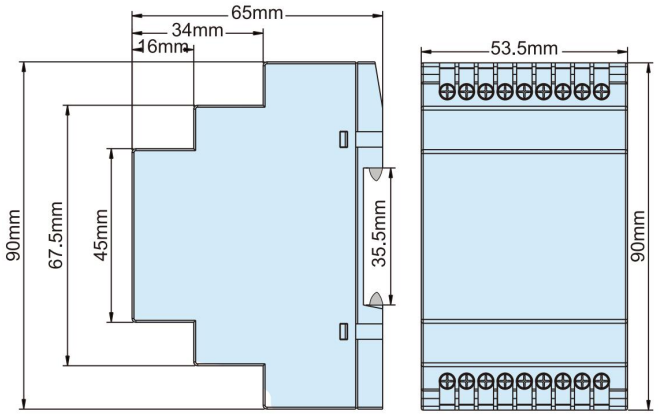
NOTE: Switching is not performed if voltage is applied to terminal 10#.



OPERATION CHART



DIMENSIONS (MILLIMETERS)



※ PREVENTING SHORT CIRCUITS

This product provides internal interlocks for securing the output relay contacts so that short circuits cannot occur between the phase wires (refer to Wiring Diagram 1). In addition, this product monitors the position of the magnetic starter power contacts in the external circuit and monitors for contact sticking, preventing short-circuit faults caused by this (using 10# terminals, refer to Wiring Diagram 2).

If you experience problems, do not immediately return the unit to the store. Email the Helpline: Sue@yaoxuele.com Qualified Customer Support Coordinators will be to assist in resolving your query.

WENZHOU DERREK ELECTRIC CO.,LTD.
Zhiguang Industry Zone,Liushi Town,Yueqing,
Wenzhou City,Zhejiang Province,China
Http://www.relayfactory.net
Http://www.yaoxuele.com
Http://www.yoshine.vip
E-mail: Sue@yaoxuele.com